

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
7 April 2005 (07.04.2005)

PCT

(10) International Publication Number  
**WO 2005/031900 A3**

(51) International Patent Classification?: H01M 8/02, 8/04

(21) International Application Number:  
PCT/EP2004/010930

(22) International Filing Date:  
30 September 2004 (30.09.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
MI2003A001881 1 October 2003 (01.10.2003) IT

(71) Applicant (for all designated States except US): NUVERA  
FUEL CELLS EUROPE S.R.L. [IT/IT]; Via Bistolfi, 35,  
I-20134 Milano (IT).

(72) Inventor; and

(75) Inventor/Applicant (for US only): TORO, Antonino  
[IT/IT]; Via Morandi, 17, I-20090 Segrate (IT).

(74) Agent: MÜLLER, Uwe; Reistötter, Kinzebach & Partner  
(GbR), Sternwartstrasse 4, 81679 München (DE).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

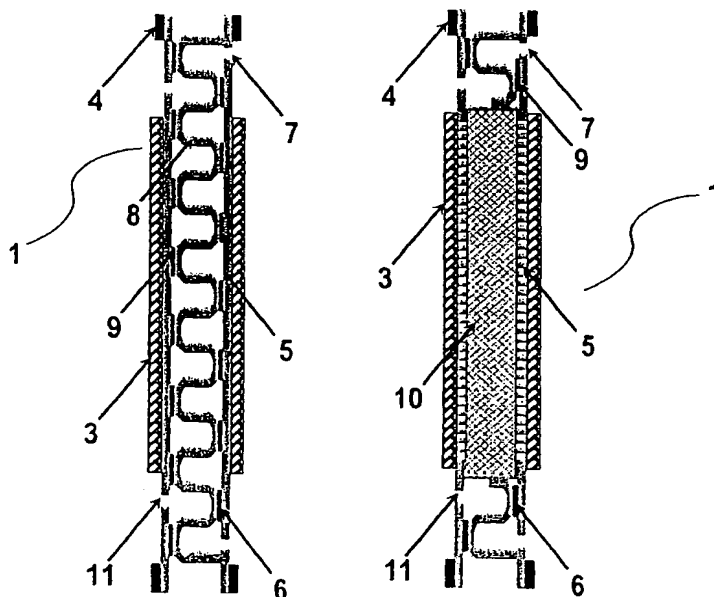
Published:

— with international search report

— before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

[Continued on next page]

(54) Title: BIPOLAR SEPARATOR FOR FUEL CELL STACK



(57) Abstract: It is described a bipolar separator for polymer membrane fuel cell stacks, delimited by two sheets provided with fluid passage holes connected by means of a corrugated element and comprising a passage section for a thermostating liquid, which allows to achieve the withdrawal of heat from the adjacent cells and the humidification and distribution of gases with a single integrated piece, simplifying the assembly and the hydraulic sealing of the stack.



(88) Date of publication of the international search report;  
27 October 2005

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*